

*REMARKS*

The amendments set out above and the following remarks are believed responsive to the points raised by the Office Action dated June 18, 2004. In view of the amendments set out above and the following remarks, reconsideration is respectfully requested.

Applicants are pleased to note the Office Action indicates claims 20-27 define over the prior art of record, and claims 14-19 are indicated to be allowable if rewritten in independent form including the limitations of the respective base claims and any intervening claims. Claim 14 has been rewritten in independent form including all of the limitations of the base claim and the intervening claims. Therefore, claim 14 and claims 15-19 which depend from claim 14 should be allowed.

A change has been made in the specification and claims to correct an obvious error. The value of the ratio present on page 3, line 11, page 6, line 12, page 9, line 13, and in claim 20 has been corrected. Support for the amendment may be found, for example, at page 9, lines 15-19 and page 32, lines 4-6. This correction is supported by the original specification and does not constitute the addition of new matter.

Claims 4, 9, 11, 12, 14, 20, 23, and 26 have been amended to describe the invention more clearly. Claims 5 and 7 have been amended to depend from independent claim 4. Claim 28 has been rewritten as an independent claim including all of the limitations of the original base claim and the intervening claims. No new matter has been added, the basis for the amended claim language may be found within the original specification, claims and drawings.

Claim 12 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 has been amended to improve the form of the claim. Thus, it is respectfully submitted that with this amendment to the claim, the basis for rejection under 35 U.S.C. §112 has now been overcome and should be withdrawn.

Claims 4-8, 29, and 30-32 were rejected under 35 U.S.C. §102 as anticipated by U.S. Patent No. 4,280,830 to Ferguson et al. (hereinafter referred to as "Ferguson"). Claims 4-8, 29, and 30-32 were rejected under 35 U.S.C. §102 as anticipated by U.S. Patent No. 4,025,329 to Goertz. Claims 9-13 were rejected under 35 U.S.C. §103(a) as being unpatentable over Goertz or Ferguson in view of Sakai and JP '381. Each of these rejections is separately and respectfully traversed.

As set out in more detail below and supported by the attached Declaration under 37 C.F.R. §1.132 by Atsushi Sakamoto, none of the cited references teach or suggest the present invention as defined by the pending claims.

The present invention is directed to a fertilizer including, *inter alia*, a urea/aliphatic aldehyde condensation product and a sparingly water-soluble phosphatic fertilizer having elution characteristics where after the sparingly water-soluble phosphatic fertilizer is dipped in a 2 wt% solution of citric acid at 30 °C in a weight ratio of sparingly water-soluble phosphatic fertilizer to 2 wt% aqueous citric acid solution of 0.013, the time required to allow elution of 80 wt% of phosphate components contained in the phosphatic fertilizer ranges from 0.1 to 2000 minutes. The present invention is also directed to a process for controlling the inorganizing speed of a urea/aliphatic aldehyde condensation product including, *inter alia*, adding the above-described sparingly water-soluble phosphatic fertilizer to the condensation product. The present invention offers many advantages. For example, as explained in the specification (e.g., at page 2, lines 11-18 and page 10, lines 2-4), the inorganizing speed of a urea/aliphatic aldehyde condensation product and thus the efficacy of the condensation product as a fertilizer can be effectively controlled when combined with sparingly water-soluble phosphatic fertilizers having elution characteristics where the time required to allow elution of 80 wt% of phosphate components is from 0.1 to 2000 minutes.

None of the cited references suggest or disclose a fertilizer or a process for controlling the inorganizing speed of a urea/aliphatic aldehyde condensation product utilizing a sparingly water-soluble phosphatic fertilizer as defined by the presently pending claims. For example, Ferguson discloses a fertilizer which may include a source of phosphorus which is typically a salt such as monoammonium phosphate (col. 3, lines 39-44). Goertz similarly discloses a particulate urea-formaldehyde fertilizer which may include additional plant nutrients including ammoniated phosphate such as monoammonium phosphate or diammonium phosphate (col. 2, line 66 to col. 3, line 2). As Mr. Sakamoto explains and as his experiment establishes (see attached Declaration), monoammonium phosphate and diammonium phosphate are not sparingly water-soluble phosphatic fertilizers having the presently claimed elution characteristics. For both monoammonium phosphate and diammonium phosphate, 100% of the phosphate components elute in only 0.083 minutes (5 seconds) into an aqueous solution of citric acid when the ratio of phosphatic fertilizer to 2 wt% citric acid solution is 0.013 (Declaration ¶3). In contrast, the claimed invention utilizes sparingly water-soluble phosphatic fertilizers having elution characteristics where 80 wt% of the phosphate components elute in 0.1 to 2000 minutes. Clearly, significantly more of the phosphate components in monoammonium and diammonium phosphate elute in a shorter period of time than for the presently claimed sparingly water-soluble phosphatic fertilizers. Thus, the phosphatic fertilizers utilized in Ferguson and

Goertz have significantly different elution characteristics than the claimed phosphatic fertilizers in the present invention.

Furthermore, neither Ferguson nor Goertz even mention the solubility of the phosphatic fertilizer, let alone teach that the inorganizing speed of a urea/aliphatic aldehyde condensation product can be effectively controlled using a sparingly water-soluble phosphatic fertilizer having the claimed elution characteristics. There is simply no suggestion in the cited references that would lead one of skill in the art to utilize a sparingly water-soluble phosphatic fertilizer to control the inorganizing speed of a urea/aliphatic aldehyde condensation product. Accordingly, the presently claimed invention is novel and patentable over these references.

The Office Action refers to the teaching in Ferguson as disclosing the same phosphates as shown in the instant specification. Applicants respectfully point out that the present specification (page 15, line 13 through page 16, line 1) discloses that components *in addition to* the sparingly water-soluble phosphatic fertilizer and urea/aliphatic aldehyde condensation product may be included so long as the effect of the invention is not deteriorated. One example of such an additional component is a fertilizer, including a phosphatic fertilizer such as monoammonium phosphate or diammonium phosphate. Although Ferguson may disclose these additional, optional phosphatic fertilizers, neither Ferguson, nor any of the other references disclose combining a urea/aliphatic aldehyde condensation product with a sparingly water-soluble phosphatic fertilizer having the elution characteristics defined in the present claims. Thus, independent claim 4 and claims 5-13, 29 and 30-32 which depend from novel and nonobvious independent claim 4 should now be allowed.

Claim 28 was rejected under 35 U.S.C. §102 as anticipated by U.S. Patent No. 6,500,223 to Sakai et al. (hereinafter referred to as "Sakai") or JP 1000381 (hereinafter referred to as "JP '381") or Goertz. This rejection is respectfully traversed.

Claim 28 is directed to a urea/aliphatic condensation product having an inorganizing speed controlled by adding to the urea/aliphatic condensation product a sparingly water-soluble phosphatic fertilizer having elution characteristics where after the sparingly water-soluble phosphatic fertilizer is dipped in a 2 wt% solution of citric acid at 30 °C in a weight ratio of sparingly water-soluble phosphatic fertilizer to 2 wt% aqueous citric acid solution of 0.013, the time required to allow elution of 80 wt% of phosphate components contained in the phosphatic fertilizer ranges from 0.1 to 2000 minutes, and mixing a water-repellent substance with the urea/aliphatic condensation product.

According to the Official Action, "it is the novelty of the instantly claimed product that need be established and not that of the recited process steps". Applicants submit that

In re Appln. of SAKAMOTO et al.  
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none of the cited references disclose or suggest a urea/aliphatic condensation product resulting from the claimed process of controlling the inorganizing speed. The claimed process includes adding a sparingly water-soluble phosphatic fertilizer having the claimed elution characteristics and a water-repellent substance to the urea/aliphatic condensation product. Thus, the product resulting from the process is a urea/aliphatic condensation product including a sparingly water-soluble phosphatic fertilizer having the claimed elution characteristics and a water-repellent substance. Not one of Sakai, JP '381, or Goertz, disclose or even suggest a urea/aliphatic condensation product including a sparingly water-soluble phosphatic fertilizer having the claimed elution characteristics and a water-repellent substance mixed with the urea/aliphatic condensation product and sparingly water-soluble phosphatic fertilizer. Sakai, in contrast to the present invention, is directed to coating a fertilizer with a degradable film and does not even suggest mixing a water-repellent substance with a urea/aliphatic condensation product, let alone mixing a water-repellent substance with a urea/aliphatic condensation product and a sparingly water-soluble phosphatic fertilizer. Accordingly, claim 28 is novel and patentable over the cited references.

For the reasons set forth above, reconsideration of the rejections is respectfully requested. In view of the amendment and remarks recited herein, the application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue.

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



Shannon Schemel, Reg. No. 47,926  
LEYDIG, VOIT & MAYER  
700 Thirteenth Street, N.W., Suite 300  
Washington, DC 20005-3960  
(202) 737-6770 (telephone)  
(202) 737-6776 (facsimile)

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